EXPRESS MAIL LABEL NO. EL675382035US
Date of Mailing: 6 November 2001

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Art Unit

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Serial No.

Filed: Herewith

For: DEVICE FOR DISTRIBUTING CELLULOSE PULP OF LOW AND MEDIUM CONSISTENCY IN ORDER TO FORM A UNIFORM PULP WEB

Examiner:

Date: 6 November 2001

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, DC 20231

Preliminary to examination, please amend the above-identified patent application as follows:

In the Claims:

Delete original claims 1-10 and replace with the following new claims 11-25.

--11. A distributor device for cellulose pulp having a consistency range of 2 to 12%, the distributor device being used to form a uniform pulp web running from the distributor device in an apparatus treating the cellulose pulp, comprising:

a cylindrical distributor housing having a cylinder axis arranged horizontally and transverse to the pulp web;

the distributor housing having an inlet defined therein for the cellulose pulp;

a rotating feed screw having an axis of rotation parallel to the cylinder axis of the distributor housing being designed to feed pulp from the inlet and along an entire length of the distributor housing in a direction of its cylinder axis; and

the distributor housing having outlets defined therein and arranged substantially along a generatrix in a jacket surface of the distributor housing, the outlets having holes arranged along the generatrix in the jacket surface of the distributor housing, the holes having a hole-diameter (d) and being arranged at a distance (x) from each other.

12. The distributor device according to claim 11 wherein the distance (x) exceeds the hole-diameter (d).

13. The distributor device according to claim 11 wherein the hole-diameter (d) is in the range of 20 millimeters to 60 millimeters.

14. The distributor device according to claim 13 wherein the hole-diameter (d) increases continuously from the inlet of the distributor housing.

15. The distributor device according to claim 13 wherein the holes are distributed evenly across the entire width of the pulp web formed from the distributor device.

16. The distributor device according to claim 12 wherein the distance (x) is between 40 millimeters and 90 millimeters and the distance (x) is at least 150% of the hole-diameter (d).

17. The distributor device according to claim 11 wherein the holes are arranged in a lowest part of the jacket surface of the distributor housing directed substantially straight down from the distributor housing and within an area of rotation in a range of ± 45 degrees.

18. The distributor device according to claim 11 wherein a feed-screw has a screw thread with crests being sweepable across the holes at a predefined distance (y) from the holes in the jacket surface of the distributor housing, the distance (y) is in a range of 5 millimeter to 20 millimeters.

19. The distributor device according to claim 18 wherein the feed screw has a core with a diameter increasing continuously from the inlet and an annular gap around the feed screw, into which the pulp is conveyed, decreases continuously from the inlet of the distributor housing.

20. The distributor device according to Claim 18 wherein the feed-screw has a decreasing thread pitch on a screw blade.

21. The distributor device according to claim 11 wherein the hole-diameter (d) is in the range of 35 millimeters to 45 millimeters.

22. The distributor device according to claim 12 wherein the distance (x) is between 40 millimeters and 90 millimeters and the distance (x) is at least 150% of the hole-diameter (d).

23. The distributor device according to claim 12 wherein the distance (x) is between 70 millimeters and 80 millimeters and the distance (x) is at least 150% of the hole-diameter (d).

24. The distributor device according to claim 11 wherein a feed-screw has a screw thread with crests being sweepable across the holes at a predefined distance (y) from the holes in the jacket surface of the distributor housing, the distance (y) is in a range of 8 millimeters to 12 millimeters.

25. The distributor device according to claim 11 wherein the apparatus treating the cellulose pulp is a wash press.

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REMARKS

Reconsideration of the application is respectfully requested. The original claims 1-10 have been canceled and the new claims 11-25 have been added to the application so that the application better conforms to U.S. Patent Practice. A copy of the original claims 1-10 is attached as Appendix A.

An abstract on a separate page has been added as Appendix B.

The application is submitted to be in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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APPENDIX A

Original Claims

1. Distributor device for cellulose pulp in the consistency range of 2 to 12%, which distributor device is used to form a uniform pulp web running from the distributor device in an apparatus treating the cellulose pulp, preferably a wash press, and where the distributor device comprises

- a cylindrical distributor housing with its cylinder axis arranged horizontally and transverse to the web of pulp,

- an inlet for the cellulose pulp in the distributor housing,

- a rotating feed screw with its axis of rotation parallel to the cylinder axis of the distributor housing and designed to feed pulp from the inlet and along the entire length of the distributor housing in the direction of its cylinder axis, and

- outlets arranged substantially along a generatrix in the jacket surface of the distributor housing,

characterized in that the outlets consist of holes arranged along the generatrix in the jacket surface of the distributor housing, with a defined hole diameter (d), and where the holes are arranged at a distance (x) from each other.

2. Distributor device according to Claim 1, characterized in that the distance (x) exceeds the hole diameter (d).

3. Distributor device according to Claim 1 or 2, characterized in that the hole diameter lies in the range of 20 to 60 mm, preferably with hole diameters of 40 ± 5 mm.

4. Distributor device according to Claim 3, characterized in that the hole diameter increases continuously as seen from the inlet of the distributor housing.

5. Distributor device according to Claim 3, characterized in that the holes are distributed evenly across the entire width of the pulp web formed from the distributor device.

6. Distributor device according to Claims 2 to 5, characterized in that the distance between the holes lies in the range of 40 to 90 mm, preferably at a distance of 75 ± 5 mm, and where the distance is at least 150% of the hole diameter.

7. Distributor device according to Claim 1 or 3, characterized in that the holes are arranged in the lowest part of the jacket surface of the distributor housing directed substantially straight down from the distributor housing about a position corresponding to 6 o'clock, and within an area of rotation in the range of ± 45 degrees.

8. Distributor device according to Claim 1 or 3, characterized in that the feed screw (4a, 4b) has a screw thread (15) whose crests, during operation, sweep across the holes at a predefined distance (Y) from the holes (7) in the inner jacket surface of the distributor housing, which distance lies in the range of 5 to 20 mm, preferably 10 ± 2 mm.

9. Distributor device according to any of the preceding claims, characterized in that the feed screw (4a, 4b) has a core (14) with a diameter increasing continuously from the inlet (6a, 6b), and the annular gap around the feed screw, in which the pulp is conveyed, decreases continuously as seen from the inlet of the distributor housing.

10. Distributor device according to Claim 6 or 7, characterized in that the feed screw (4a, 4b) has a decreasing thread pitch on its screw blade (15).

Appendix B

Abstract

The distributor device is for cellulose pulp of low and medium consistency and is used to form a uniform pulp web running from the distributor device in an apparatus treating the cellulose pulp. The distributor device has a cylindrical distributor housing arranged horizontally and transverse to the pulp web, and an inlet for the cellulose pulp at one end of the distributor housing and on the pulp web side. Pulp is fed with feed screws from the inlet and along the length of the distributor housing. The web is initially formed via the outlets defined along a generatrix in the jacket surface of the distributor housing. An optimum distribution of low-concentration pulp is obtained with the holes arranged along the generatrix in the jacket surface of the distributor housing. The holes have a defined hole diameter (D) and are arranged at a distance (X) from each other. The interaction with the feed screw makes it possible to keep the holes free from clogging.